

Remarks/Arguments

A. Claims In the Case

Claims 293-296, 298-310, 443-461 and 463-474 are rejected. Claims 293-296, 298-310, 443-461 and 463-476 are pending. Claims 475 and 476 are new.

B. The Claims Are Not Obvious Over Su et al. In View of Kachel et al. Pursuant To 35 U.S.C. § 103(a)

The Examiner has rejected claims 293-296, 298-310, 443-461 and 463-450 as being unpatentable over U.S. Patent No. 6,068,464 to Su et al. (hereinafter “Su”) in view of European Patent Application No. 0 318 164 to Kachel et al. (hereinafter “Kachel”). Applicant respectfully disagrees with these rejections.

In order to reject a claim as obvious, the Examiner has the burden of establishing a *prima facie* case of obviousness. *In re Warner et al.*, 379 F.2d 1011, 154 USPQ 173, 177-178 (C.C.P.A. 1967). To establish a *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974), MPEP § 2143.03.

Claims 293 and 450 are directed towards a programmable logic controller that includes a combination of features including, but not limited to, the features of, “the controller is configured to control operation of the lens curing unit during use, and adjust lens curing conditions in the lens curing unit based on the eyeglass prescription during use.”

Applicant’s specification states:

The controller may also be configured to control the various operations of

the lens curing unit. Some of the operations that may be controlled or measured by the controller include: (i) measuring the ambient room temperature; (ii) determining the dose of light (or initial dose of light in pulsed curing applications) required to cure the lens forming composition, based on the ambient room temperature; (iii) applying the activating light with an intensity and duration sufficient to equal the determined dose; (iv) measuring the composition's temperature response during and subsequent to the application of the dose of light; (v) calculating the dose required for the next application of activating light (in pulsed curing applications); (vi) applying the activating light with an intensity and duration sufficient to equal the determined second dose; (vii) determining when the curing process is complete by monitoring the temperature response of the lens forming composition during the application of activating light; (viii) turning the upper and lower light sources on and off independently; (ix) monitoring the lamp temperature, and controlling the temperature of the lamps by activating cooling fans proximate the lamps; and (x) turning the fans on/off or controlling the flow rate of an air stream produced by a fan to control the composition temperature....

(Specification, page 7, lines 6-19).

After the mold assembly has been filled with the monomer and inspected, the mold assembly is transferred to a lens curing unit. A lens curing unit such as lens curing unit 30 (see FIG. 1) described above may be used. The curing conditions for the lens forming composition may depend on the type of lens being formed and the type of lens forming composition being used. The use of a lens forming composition which includes an aromatic containing polyether polyethylenic functional monomer, a co-initiator composition and a photoinitiator (e.g., the OMB-99 and Phases II compositions) may allow a variety of lenses to be formed using similar lens curing conditions. Table 11 summarizes the lens curing conditions required to cure most types of lenses....

LENS INFORMATION			CURING INFORMATION			
Sphere	Lens Type	Tinted	Filter	Initial Dose	Postcure Time	Anneal Time
+4.00 to +2.25	Clear	No	50 mm	90 Sec. Back and Front	13 Min.	7 Min.
+4.00 to +2.25	Clear	Yes	50 mm	90 Sec. Back and Front	15 Min.	7 Min.
+4.00	Photo		50 mm	90 Sec.	13 Min.	7 Min.

to +2.25				Back and Front		
+2.00 to -4.00	Clear	No	Clear Plate	7 Sec. Front	13 Min.	7 Min.
+2.00 to -4.00	Clear	Yes	Clear Plate	7 Sec. Front	15 Min.	7 Min.
+2.00 to plano	Photo		Clear Plate	15 Sec. Front	13 Min.	7 Min.
-0.25 to -4.00	Photo		Clear Plate	20 Sec. Back, w/ 7 Sec. Front starting @ 13 Sec. elapsed time.	13 Min.	7 Min.

Table 11

...The use of a lens forming composition which includes an aromatic containing polyether polyethylenic functional monomer, a co-initiator composition and a photoinitiator (e.g., the OMB-99 and Phases II compositions) allows much simpler curing conditions than other lens forming compositions. While pulsed activated light curing sequences may be used to cure the lenses, continuous activating light sequences may also be used, as described in Table 11. The use of continuous activating light sequences allows the lens curing equipment to be simplified. For example, if continuous activating light is used, rather than pulsed light, equipment for generating light pulses is no longer required. Thus, the cost of the lens curing apparatus may be reduced. Also the use of such a lens forming composition allows more general curing processes to be used. As shown in Table 11, seven different processes may be used to cure a wide variety of lenses. This greatly simplifies the programming and operation of the lens curing unit.
(Specification, page 230 line 27 through page 233 line 15)

Applicant submits that Su, individually, or in combination with Kachel, does not appear to teach or suggest the combination of features of the claims. Su appears to teach a computer that determines the correct molds to use and a computer subsystem that turns on the UV light sources. For example, Su states:

The computer subsystem also includes a memory subsystem and a hard disk to run computer programs...

Algorithms used in a computer program determines the appropriate front and rear molds 40, 50 to be used to form the desired lens and the computer subsystem then provides an output indicating the correct molds to use.
(Su, column 12, line 59 through column 13, line 1)

The desired exposure time to the UV light is between twenty (20) seconds and thirty (30) minutes, more preferably between thirty (30) seconds and two (2) minutes, and most preferably between forty-five (45) seconds and one and a half (1/2) minutes. The exposing step occurs by placing the monomer between a plurality of UV light sources, preferably one adjacent to each end of the gasket 20 so that the UV light passes through the glass molds to the monomer into the cavity 31. The intensity of the UV light sources 312 is preferably about $1.2\text{--}1.3 \times 10^{-2}$ watts per square centimeter at a wavelength of 350 nanometers.

The process of exposing the lens-forming assembly 10 can be automated by, for example, using the curing station 300 in FIG. 15. The operator connects the handle member 154 of the clamp 152 to a movable cylinder rod 310, which moves the clamp 152 and lens forming assembly 10 upwardly. At the top position the two molds 40,50 are each exposed to a UV light source 312 so that the UV light passes therethrough to interact with the monomer. The computer subsystem or other automated or manual means energizes the UV light sources 312 for a desired period, after which time the movable cylinder rod 310 lowers so that the operator can remove the clamp 152 and lens-forming assembly 10.
(Su, column 22, line 65 through column 23, line 35).

Applicant submits that the features of the claims including, but not limited to, the features of, “the controller is configured to control the operation of the lens curing unit during use and adjust lens curing conditions in the lens curing unit based on the eyeglass prescription during use” are not taught or suggested by Su.

Kachel appears to teach the use of a heating cycle rather than a light curing cycle. The heating cycle of Kachel appears to be based on the resin type, rather than the eyeglass prescription. For example, Kachel states:

After all the gasket assemblies have been filled with resin, the operator places them in the oven or ovens 26 as the case may be. The ovens 26 subject the resin to a heat cycle which will cause solidification. The typical time cycle will be

overnight, however, shorter time cycles may be utilized depending on the resin formulation
(Kachel, page 16, lines 52-55).

The operator can then removed (sic) the filled forms from accumulator 338, and place them within either of two ovens, which are controlled for suitable curing cycles. A typical curing cycle would be for an initial 15 hours commencing at 105 °F and ramped to increase to 145 °C.
(Kachel page 17, lines 55-57)

Applicant submits that the features of the claims including, but not limited to, the features of, “the controller is configured to control the operation of the lens curing unit during use and adjust lens curing conditions in the lens curing unit based on the eyeglass prescription during use” are not taught or suggested by Su, individually, or in combination with Kachel.

As such, Applicant submits, for at least the reasons cited above, independent claims 293 and 450 and the claims dependent thereon (claims 294-296, 298-310, 443-449, 451-461 and 463-474, respectively and new claims 475-476) are patentable over Su in view of Kachel.

C. The Claims Are Not Obvious Over Su in View of Kachel In Further View of Blum et al. Pursuant To 35 U.S.C. § 103(a)

Claims 299 and 464 were rejected as being unpatentable over Su in view of Kachel in further view of U.S. Patent No. 4,929,850 to Blum et al. (hereinafter “Blum”). Applicant respectfully disagrees with these rejections.

For at least the reasons stated above, Applicant submits independent claims 293 and 250 are patentable over Su in view of Kachel.

Claim 299 states in part, “wherein the lens curing unit comprises a first light source and a second light source, and wherein the controller is configured to individually control the first and

second light sources during use.” Applicant submits that the features of claim 299 in combination with the features of claim 293 are not taught or suggested by the cited art.

Claim 464 states in part, “wherein the apparatus further comprises a light sensor configured to measure the dose of light transmitted to the mold cavity during use, and wherein the light sensor is configured to communicate with the controller, and wherein the controller varies the intensity or duration of light such that a predetermined dose is transmitted to the mold cavity during use.” Applicant submits that the features of claim 464 in combination with the features of independent claim 450 are not taught or suggested by the cited art.

D. The Claims Are Not Obvious Over Su in View of Kachel In Further View of Buazza et al. Pursuant To 35 U.S.C. § 103(a)

Claims 298 and 463 were rejected as being unpatentable over Su in view of Kachel in further view of U.S. Patent No. 6,086,799 to Buazza et al. Applicant respectfully disagrees with these rejections.

Claims 298 and 463 state in part, “wherein the apparatus further comprises a light sensor configured to measure the dose of light transmitted to the mold cavity, and wherein the light sensor is configured to communicate with the controller, and wherein the controller varies the intensity or duration of light such that a predetermined dose is transmitted to the mold cavity.” Applicant submits, for at least the reasons cited above, claims 293 and 450, thus dependent claims 298 and 463 respectively, are patentable over the cited art.

E. The Claims Are Not Obvious Over Su In View of Kachel et al. In Further View of Buazza et al. Pursuant To 35 U.S.C. § 103(a)

Claims 300-301, 455-457 and 465-466 were rejected as being unpatentable over Su in view of Kachel in further view of U.S. Patent No. 5,989,462 to Buazza et al. Applicant respectfully disagrees with these rejections.

For at least the reasons stated above, Applicant submits that independent claims 293 and 450 are patentable over Su in view of Kachel.

Claim 300 states in part, “wherein the controller is configured to perform system diagnostic checks during use.” Applicant submits that the features of claim 300 in combination with the features of independent claim 293 are patentable over the cited art.

Claim 301 states in part, “wherein the controller is configured to notify the user when the system requires maintenance during use.” Applicant submits that the features of claim 301 in combination with the features of independent claim 293 are patentable over the cited art.

Claim 455 states in part, “wherein the lens curing unit comprises a first activating light source, wherein the first activating light source is configured to produce activating light directed toward a mold assembly during use; a second activating light source, wherein the first activating light source is configured to produce activating light directed toward a mold assembly during use; a first filter disposed between the first light source and the first mold member; wherein first filter is configured to manipulate the intensity of the activating light emanating from the first activating light source during use; and a second filter disposed between the second light source and the second mold member, wherein second filter is configured to manipulate the intensity of the activating light emanating from the second activating light source during use.” Applicant submits that the features of claim 455 in combination with the features of independent claim 450 are patentable over the cited art.

Claim 456 states in part, “wherein the lens curing unit comprises, a first activating light source, wherein the first activating light source is configured to produce activating light directed

toward a mold assembly during use a second activating light source, wherein the second activating light source is configured to produce activating light directed toward a mold assembly during use; a first filter disposed between the first light source and the first mold member; wherein first filter is configured to manipulate the intensity of the activating light emanating from the first activating light source during use; a second filter disposed between the second light source and the second mold member, wherein second filter is configured to manipulate the intensity of the activating light emanating from the second activating light source during use; and wherein the first and second filters are configured to thermally isolate the first and second activating light sources from the lens curing chamber during use.” Applicant submits that the features of claim 456 in combination with the features of independent claim 450 are patentable over the cited art.

Claim 457 states in part, “wherein the lens curing unit comprises: a first activating light source, wherein the first activating light source is configured to produce activating light directed toward a mold assembly during use; a second activating light source, wherein the second activating light source is configured to produce activating light directed toward a mold assembly during use; a first thermal barrier disposed between the first activating light source and the first mold member, and a second thermal barrier disposed between the second activating light source and the second mold member.” Applicant submits that the features of claim 456 in combination with the features of independent claim 450 are patentable over the cited art.

Claim 465 states in part, “wherein the controller is configured to perform system diagnostic checks during use.” Applicant submits that the features of claim 465 in combination with the features of independent claim 450 are patentable over the cited art.

Claim 466 states in part, “wherein the controller is configured to notify a user when the system requires maintenance during use.” Applicant submits that the features of claim 466 in combination with the features of independent claim 450 are patentable over the cited art.

F. The Claims Are Not Obvious Over Su In View of Kachel et al. In Further View of Kokonaski et al. Pursuant To 35 U.S.C. § 103(a)

Claims 303-310 and 468-472 were rejected as being unpatentable over Kachel in view of Kachel in further view of PCT Application No. WO 98/28126 to Kokonaski et al. (hereinafter “Kokonaski”). Applicant respectfully disagrees with these rejections.

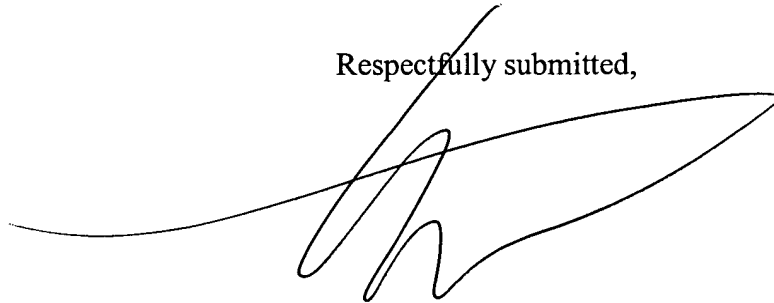
For at least the reasons stated above, Applicant submits that independent claims 293 and 450 are patentable over Su in view of Kachel. As such, Applicant submits that the claims dependent on claim 293 and 450 (claims 303-310 and 468-472, respectively, and new claims 475-476) are not taught or suggested by the cited art.

G. Additional Remarks

Based on the above, Applicant respectfully requests favorable reconsideration.

Applicant respectfully requests a three-month extension of time. If any further extension of time is required, Applicant hereby requests the appropriate extension of time. A Fee Authorization is enclosed for the extension of time fee. If any additional fees, or if any required fees are inadvertently omitted or have been overpaid, please appropriately charge or credit those fees to Meyertons, Hood, Kivlin, Kowert & Goetzel, P.C. Deposit Account Number 50-1505/5040-04205/EBM

Respectfully submitted,

A large, stylized handwritten signature in black ink, likely belonging to Eric B. Meyertons, is written over the "Respectfully submitted," text.

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